APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/399,696	09/21/1999	KEHSING J. CHOU	ST9-99-093	2558

7590 07/01/2005	EXAMINER
SUGHRUE MION ZINN MACKEAK & SEAS	PHAM, HUNG Q
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ART UNIT	PAPER NUMBER
2162	

WASHINGTON, DC 20037-3213

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>09 May 2005</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All   b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>05/17/05</u>.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 05/17/2005 have been fully considered but they are

not persuasive.

As argued by applicants:

(1)   *Ito fails to disclose or suggest a plurality of RMI servers, let alone selecting one of the RMI*

servers to process a request (for federated data) based on a load of the RMI server and its ability to satisfy

the request. Thus, claim 1 is not anticipated by Ito.

          Claims 7 and 13 both recite features similar to those found in claim 1. Thus, claims 7 and 13 are

not anticipated by Ito based on a rational analogous to that set forth above for claim 1.

(2)   *Furthermore, the Examiner provides no reasonable suggestion or motivation from the references*

themselves, absent impermissible hindsight, for combing Ito and Arnold (see Office Action: pages 67).

Indeed, Arnold merely describes use of a Remote Procedure Call (RPC) and does not describe a plurality

of RMI servers operable to process requests for data stored at heterogeneous datastores.

(3)   *Claims 7 and 13 both recite features similar to those found in claim 1. Thus, claims 7 and 13 are*

not anticipated by Ito based on a rational analogous to that set forth above for claim 1. Consequently,

claims 2-4, 8-10 and 14-16 are not anticipated by Ito at least by virtue of their dependency.

(4)   *Guedalia fails to make up for the deficiencies of Ito noted above for claims 1, 7 and 13.*

Consequently, claims 5, 11 and 17 are patentable over the proposed combination of Ito in view of Guedalia

at least by virtue of their dependency, as well as the additional features recited therein.

(5)   *Takahashi fails to make up for the deficiencies of Ito noted above for claims 1, 7 and 13.*

Consequently, claims 6, 12 and 18 are patentable over the proposed combination of Ito in view of

Takahashi at least by virtue of their dependency.

(6)   *Francis fails to make up for the deficiencies of Ito noted above for claims 1, 7 and 13.*
Consequently, claims 19, 20 and 21 are patentable over the proposed combination of Ito in view of Francis
at least by virtue of their dependency.

Examiner respectfully traverses.

(1)   In the Office Action, 02/15/05, claims 1, 7 and 13 were rejected under 35

U.S.C. § 102(b) as being anticipated by Ito, claims 22, 23 and 24 were rejected under

35 U.S.C. 103 (a) as being unpatentable over Ito in view of Arnold. In the Amendment

filed on 05/09/2005, claims 22, 23, 24 have been canceled and incorporated into 1, 7

and 13. As set forth in the 02/15/05 Office Action, Ito does not teach the server is a

Remote Method Invocation (RMI) Server. However, the technique of using Remote Method

Invocation to improve a Remote Procedure Call system in order to have a *Remote*

Method Invocation (RMI) Server for processing a task on a remote server computer is

disclosed by Arnold at FIG. 3, Col. 6, Lines 4-22, and the motivation to combine theses

two references is to have a well translation of objects of a 3distributed system.

(2)   In response to applicant's argument, to combine the references, the

examiner recognizes that obviousness can only be established by combining or

modifying the teachings of the prior art to produce the claimed invention where there is

some teaching, suggestion, or motivation to do so found either in the references

themselves or in the knowledge generally available to one of ordinary skill in the art.

See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958

F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

"Test of obviousness is not whether features of secondary reference may be bodily incorporated into primary reference's structure, nor whether claimed invention is expressly suggested in any one or all of references; rather, <u>test is what combined teachings of references would have suggested to those of ordinary skill in art</u>." In re Keller, Terry, and Davies, 208 USPQ 871 (CCPA 1981).

"Reason, suggestion, or motivation to combine two or more prior art references in single invention may come from references themselves, from knowledge of those skilled in art that certain references or disclosures in references are known to be of interest in particular field, or from nature of problem to be solved;" Pro-Mold and Tool Co. v. Great Lakes Plastics Inc. U.S. Court of Appeals Federal Circuit 37 USPQ2d 1626 Decided February 7, 1996 Nos. 95-1171, -1181

"[q]uestion is whether there is something in prior art as whole to suggest desirability, and thus obviousness, of making combination." Lindemann Maschinenfabrik GMBH v. American Hoist and Derrick Company et al. U.S. Court of Appeals Federal Circuit 221 USPQ 481 Decided Mar. 21, 1984 No 83-1178.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a

reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Additionally, Java Remote Method Invocation (RMI) uses stubs and skeletons as a standard mechanism for communicating with remote objects (http://java.sun.com/j2se/1.3/docs/guide/rmi/spec/rmiTOC.html). As disclosed by Arnold in FIG. 3, Col. 6, Lines 4-41, server 316 includes a remote skeleton 322 to unmarshal the parameters and data transmitted from a remote stub 310, and RMI is one remote procedure call (RPC) system capable of providing remote stub 310 and remote skeleton 322. Arnold further suggests that the client selects a suitable server from the network to process the task. The selection criteria can be based upon the overall processing load distribution among the collection of server. For example, load balancing techniques may be used to automatically determine which computer has the least load at a given moment (Arnold, Col. 6, Lines 42-57). As seen, by using RMI, server 310 is a *Remote Method Invocation (RMI) Server*, and a suitable server is selected based on load balancing implies *a plurality of RMI servers operable to process requests for data*.

(3)   Claims 7 and 13 have features similar to claim 1. Thus, claims 7 and 13 are rejected based on rational analogous as discussed above.

(4)   Claims 5, 11 and 17 are unpatentable by virtue of their dependency, as well as the teaching of Guedalia.

(5)   Claims 6, 12 and 18 are unpatentable by virtue of their dependency, and

with the reasons as discussed above with respect to claims 1, 7 and 13.

(6)   Claims 19, 20 and 21 are unpatentable by virtue of their dependency, and

with the reasons as discussed above with respect to claims 1, 7 and 13.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 05/17/2005 was filed

after the mailing date of the Non-Final Office Action on 02/15/05. The submission is in

compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure

statement is being considered by the examiner.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

Claims 1-4, 7-10 and 13-16 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Ito et al. [5,721,904] in view of Arnold et al. [USP 6,446,070 B1].

Regarding claims 1, 7 and 13, Ito teaches a system, apparatus, and method for

searching for data in one or more heterogeneous data sources within a computer

system (Col. 1, Lines 10-14).

- As illustrated at FIG. 1, *a request for* accessing *data at a federated data source*

    includes Database Driver A and Database Driver B in the form of

    SQL_RPC (Col. 8, Lines 15-26).

- Referring back to FIG. 1, Access Management Component 112v as *server*

connected to Database Driver A and Database Driver B as *one or more heterogeneous data*

stores. Upon issuance of SQL_RPC, the name server information processing system is

inquired for connection with Access Management Component 112v (Col. 9, Lines 26-

32). The Name Server Information Processing System 150 keep track the status of

each component 112v or server, where the server in operation is labeled as RUN, the

server in stationary state as STOP, and the server in fault as FAULT. The name server

information processing system 150 replies with the port number and the network

address of the server component if the value held in the status storage region is RUN

(Col. 10, Lines 15-36). As seen, Access Management Component 112v as *server* is

selected to process the request based on whether the server can satisfy the request for data using the
status of each component 112v. Ito further discloses the technique of *selecting* Access
Management Component 112v as *server based on a load* condition of each Access
Management Component 112v at Col. 15, Lines 18-28 and 54-66.

The missing of Ito is the implementation of *Remote Method Invocation* on the *server*.
However, RMI method for a remote procedure call to process a task on a remote server
computer using stubs and skeleton is disclosed by Arnold at FIG. 3, Col. 6, Lines 4-41.

It would have been obvious for one of ordinary skill in the art at the time the
invention was made to apply Remote Method Invocation into a Remote Procedure Call
System in order to have a well translation of objects of a distributed system.

Regarding claims 2, 8 and 14, Ito and Arnold, in combination, teach all of the
claimed subject matter as discussed above with respect to claims 1, 7 and 13, Ito
further discloses the claimed *forwarding the request to the selected server* (Col. 8, Lines 16-26,
and Col. 10, Lines 38-44).

Regarding claims 3, 9 and 15, Ito and Arnold, in combination, teach all of the
claimed subject matter as discussed above with respect to claims 2, 8 and 14, Ito
further discloses the claimed *forwarding additional requests for similar data to the selected server*
(Col. 9, Lines 26-45).

Regarding claim 4, 10 and 16, Ito and Arnold, in combination, teach all of the

claimed subject matter as discussed above with respect to claims 1, 7 and 13, Ito

further discloses *the server is within a server hierarchy* (Col. 10, Lines 15-36).

Claims 5, 11 and 17 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Ito et al. [5,721,904], Arnold et al. [USP 6,446,070 B1] as applied

to claims 4, 10, 16, and further in view of Guedalia et al. [USP 6,535,878 B1].

Regarding claims 5, 11 and 17, Ito and Arnold, in combination, teach all of the

claimed subject matter as discussed above with respect to claims 4, 10 and 16, but

does not explicitly teach the claimed *upon receiving a request to add another server, connecting*

the server to an existing server in the server hierarchy based on a number of connections of the

existing server. However, in order to prevent processor bottlenecks, Guedalia, Col. 5,

Lines 3-16, discloses the technique of adding new server to an existing server based on

number of connections. It would have been obvious for one of ordinary skill in the art at

the time the invention was made to add a new server upon receiving a request in order

to prevent the bottleneck of connections.

Claims 6, 12 and 18 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Ito et al. [5,721,904], Arnold et al. [USP 6,446,070 B1] as applied

to claims 4, 10, 16, and further in view of Takahashi et al. [USP 6,259,705 B1].

Regarding claims 6, 12 and 18, Ito and Arnold, in combination, teach all of the

claimed subject matter as discussed above with respect to claims 4, 10 and 16, but

does not explicitly teach the claimed *upon receiving a request to deleted an existing server in the*

hierarchy, deleting that server. However, in the event that a server has gone down,

Takahashi, Col. 2, Lines 1-10, discloses the technique of making a change to the server

group configuration to delete the server that went down. It would have been obvious for

one of ordinary skill in the art at the time the invention was made to delete a server in

order to connect to a server that satisfies a predetermined load condition.

Claims 19, 20 and 21 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Ito et al. [5,721,904], Arnold et al. [USP 6,446,070 B1] as applied

to claims 1, 7, 13, and further in view of Francis et al. [USP 6,772,131 B1].

Regarding claims 19, 20 and 21, Ito and Arnold, in combination, teach all of the

claimed subject matter as discussed above with respect to claims 1, 7 and 13, but does

not explicitly teach the claimed *load of the server is based on at least the ratio of a current load of*

the server and a maximum load of the server. However, Francis discloses a load balancing

based on *the ratio of a current load of the server and a maximum load of the server* (Francis, Col.

6, Lines 4-11). It would have been obvious for one of ordinary skill in the art at the time

the invention was made to use the ratio of current load and maximum load to define the

load condition of a server in order to distribute the request to an available server.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to HUNG Q. PHAM whose telephone number is 571-272-

4040. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, JOHN E. BREENE can be reached on 571-272-4107. The fax phone

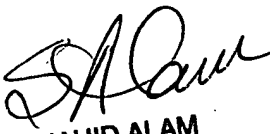number for the organization where this application or proceeding is assigned is 703-

872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

HUNG Q PHAM
Examiner
Art Unit 2162

June 21, 2005

SHAHID ALAM
PRIMARY EXAMINER